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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,784	12/20/2001	Reinhold Wimberger-Friedl	NL 000774	3142

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

THOMAS, COURTNEY D

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,784

Applicant(s)

WIMBERGER-FRIEDL ET AL.

Examiner

Courtney Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 6 is objected to because of the following informalities:
2. Claim 6 recites an apparatus comprising apparatus limitations and wherein an included grid structure element is made by a manufacturing method. Examiner notes that the claim is indefinite, since it is unclear what applicants consider being their invention; whether the claim is directed to an examination apparatus comprising a grid structure or a grid structure manufactured by a particular process. Examiner further notes that patentability of claim 6 is not dependent on the method of production of the grid structure (see MPEP 2113) and therefore the Examiner does not give the manufacturing process any patentable weight in novelty determination. Examination of claim 6 is concluded as drawn to an apparatus comprising device limitations. Appropriate correction is required.

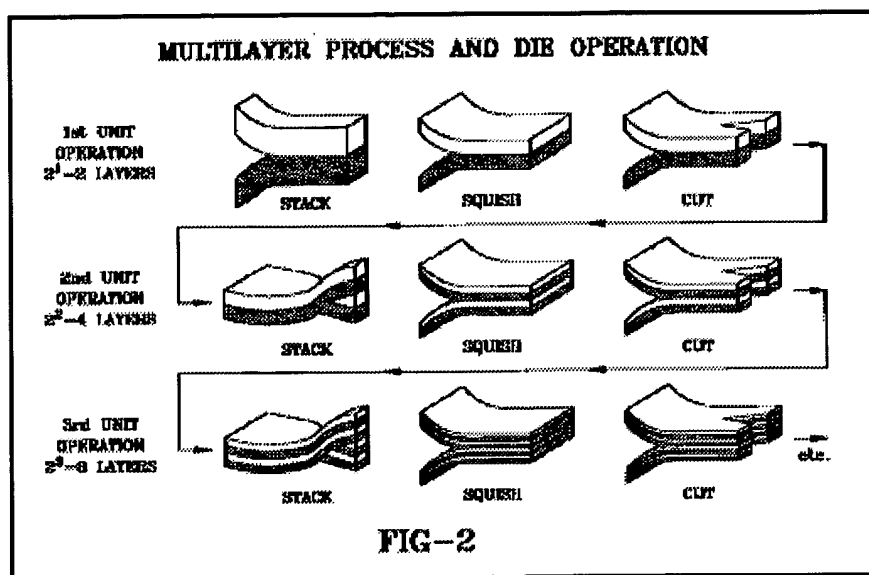
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reilly et al (U.S. Patent 5,866,265) in view of Zarnoch et al. (U.S. Patent 5,581,592).

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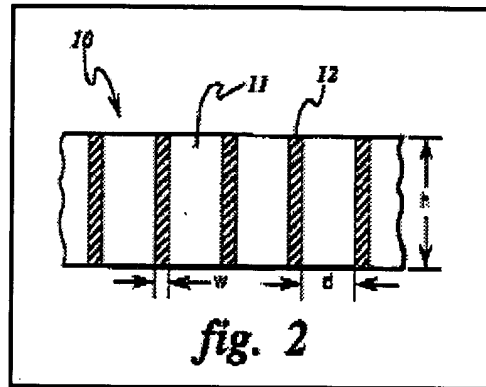


3.

Figure 2 - U.S. Patent 5,866,265 to Reilly et al.

4. As per claims 1, and 3, Reilly et al. disclose a method of manufacture wherein material strips having different properties (column 3, lines 5-9; 48-59) are extruded to form regions of a grid structure (Fig. 2, above). Reilly et al. do not explicitly disclose the step of a) allowing at least one of the extruded material strips to expand in at least one direction such that at least one dimension of the extruded material strips prior to extrusion is restored or b) utilizing material strips having different X-ray transmissivities, wherein the regions alternate between materials having high X-ray transmissivity and materials having low X-ray transmissivity.

5. Reilly et al. teach a step involving the expansion of extruded material strips in at least one direction. Additionally, Reilly et al. suggest as in Fig. 2 above, that the process also include the step of allowing at least one dimension of the extruded material strips prior to extrusion be restored (see "cut" step). By way of example, Reilly et al. teach that such operation results in an ability to successfully duplicate the multiplication process, thereby enabling the construction of several patterned layers to achieve an intended thickness, density or material characteristic (see abstract; column 1, lines 1-31).



6.

Figure 2 - U.S. Patent 5,581,592 to Zarnoch et al.

7. Zarnoch et al. disclose the grid structure (10) with successive regions having different X-ray absorption coefficients, the material strips (11, 12) having different X-ray absorbing behavior (abstract, column 3, lines 61-64). The successive regions within the grid structure result in regions that alternate between materials having high X-ray transmissivity and materials having low X-ray transmissivity (Fig. 2). Zarnoch et al. teach that such construction results in a structure that is effective in reducing X-ray radiation scatter, thereby producing high contrast images when utilized in an X-ray imaging system (see column 1, lines 29-43).

8. Examiner notes that organic (i.e. rubber) and inorganic materials possessing low densities often display high X-ray transmissivity, due to the "porosity" of their internal structures. Conversely it is commonly accepted among practitioners in the X-ray imaging art that high-density materials (organic or inorganic) are capable of significantly attenuating X-ray radiation.

9. It would have been obvious to modify the method of Reilly et al. such that it incorporated the step of allowing at least one of the extruded material strips to expand in at least one direction such that at least one dimension of the extruded material strips prior to extrusion is restored. One would have been motivated to make such a modification so that the multiplication process is easily duplicated, resulting in the construction of several patterned layers to achieve an intended thickness, density or material characteristic as suggested by Reilly et al. (abstract; column 1, lines 1-31; Fig. 2 above). Additionally, it

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would have been obvious to further modify the method of Reilly et al. such that it incorporated the use of material strips having different X-ray transmissivities, wherein the regions alternate between materials having high X-ray transmissivity and materials having low X-ray transmissivity and used within an X-ray apparatus. One would have been motivated to make such a modification so that a grid structure, employed in an imaging system, is able to reduce scattered radiation by absorbing transmitted rays, thereby producing high contrast images as taught by Zarnoch et al. (column 3, lines 45-54; column 4, lines 60-63).

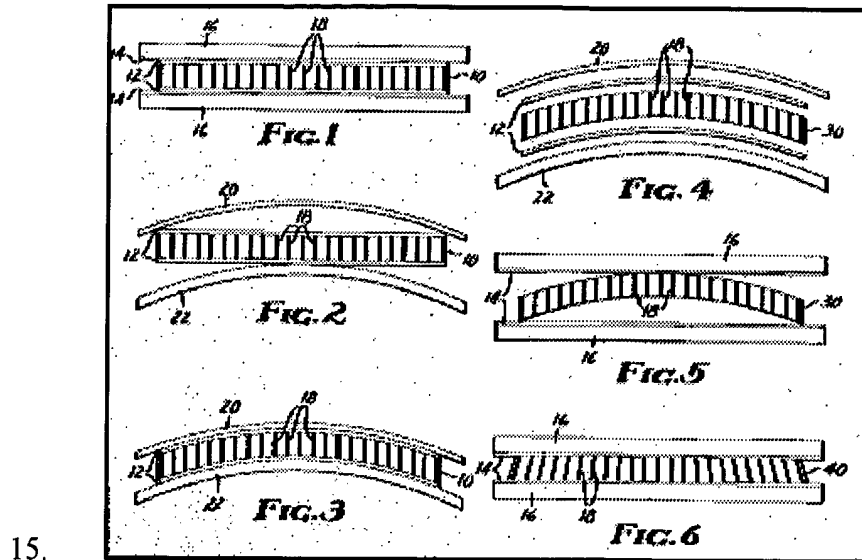
10. **As per claim 2**, Reilly et al. as modified above, disclose a method of manufacture wherein material strips are co-extruded (Reilly et al. Fig. 2, above).

11. **As per claim 7**, Reilly et al. as modified above, disclose a method of manufacture wherein material strips travel in opposite directions (Reilly et al. Fig. 2, above).

12. **As per claim 4**, Reilly et al. as modified disclose a method wherein two different material strips are fed into the entrance of a device for multiplying material strips, said material strips being divided a number of times during their travel through the device and being arranged in layers, thus forming an assembly of alternating material strips (see Reilly et al. Fig. 2 above; column 3, lines 5-17).

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reilly et al (U.S. Patent 5,866,265) and Zarnoch et al. (U.S. Patent 5,581,592) in view of Stevens (U.S. Patent 3,919,559).

14. **As per claim 5**, Reilly et al. as modified, do not explicitly disclose a method wherein the grid (assembly) is deformed in a direction transverse to a propagation direction of the material strips; the assembly subsequently subjected to a re-conversion into a flat assembly, wherein neighboring regions remain in an inclined position relative to one another and focused to a centerline of the assembly.



Figures 1-6 - U.S. Patent 3,919,599 to Stevens

16. Stevens discloses a method of deforming a grid assembly (Figs. 1-3); the assembly subsequently subjected to a re-conversion into a flat assembly wherein neighboring regions remain in an inclined position relative to one another and focused to a centerline of the assembly (Figs. 4-6).

17. It would have been obvious to further modify the method of Reilly et al. such that it incorporated the steps of deforming the grid assembly in a direction transverse to a propagation direction and subsequently reconvert the assembly into a flat assembly, wherein neighboring regions remain in an inclined position relative to one another and focused to a centerline of the assembly. One would have been motivated to make such a modification so that the grid assembly is constructed to provide shaper focusing of incident radiation due to increased absorption of secondary radiation as taught by Stevens (column 1, lines 34-53).

Claim Rejections - 35 USC § 102

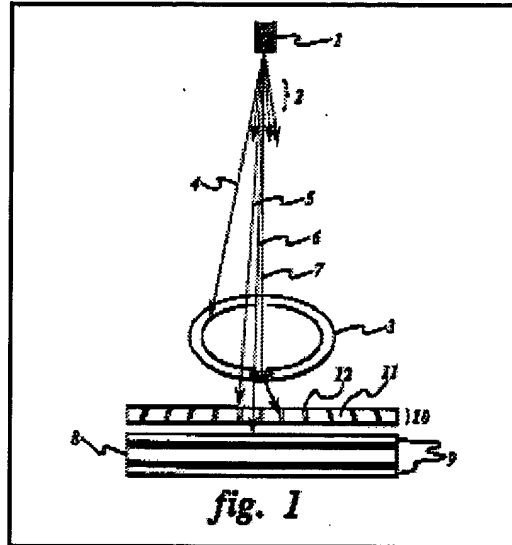
18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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19. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Zarnoch et al. (U.S. Patent 5,581,592).



20.

Figure 1 - U.S. Patent 5,581,592 to Zarnoch et al.

21. As per claim 6, Zarnoch et al. disclose an examination apparatus for irradiating an object (3) by means of X-rays (4); the apparatus comprising an X-ray source (1) an X-ray detector (8) a receiving space for the object (3) and an X-ray scatter grid (10) - the X-ray scatter grid structure comprising regions alternating with materials having high X-ray transmissivity and materials having low X-ray transmissivity (see Fig. 1 above, 11, 12; abstract).

Response to Arguments

22. Applicant's arguments filed 06.12.03 have been fully considered but they are not persuasive. In particular, Reilly et al (U.S. Patent 5,866,265) disclose a method comprising the step of extruding two dissimilar materials. Examiner notes that although the reference does not specifically discuss the material property of X-ray transmissivity, organic and inorganic matter, when irradiated with X-rays will display some ability to either transmit ~~of~~ attenuate X-ray radiation. This is an inherent feature of all materials, since X-ray transmissivity is based primarily on material density. Reilly et al. teach a technique associated

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with extruding dissimilar materials to fabricate an article possessing a predetermined patterned structure. Provided with the teachings of Zarnoch et al. (U.S. Patent 5,581,592) – grid structure possessing high and low X-ray transmissivity; one skilled in the radiation art would be able to conclude that the teachings of Reilly et al. are applicable to the purpose of fabricating an article with a patterned grid structure. Examiner concludes that the selection of materials with particular properties would be a design choice of the respective experimenter.

Conclusion

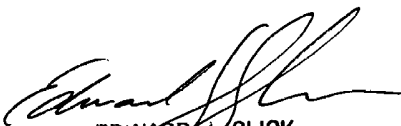
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (703) 306-0473. The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (703) 308 4858. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

Courtney Thomas

July 6, 2003



EDWARD J. GLICK
Supervisory Patent Examiner
EXAMINER
TECHNOLOGY CENTER 2800